### PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AND A H.I.B. FOR THE INTERSECTION OF US 40 ALT., SITE ACCESS, AND MD 68 IN WASHINGTON COUNTY. US 40 ALT. IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

### INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SEVEN-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR US 40 ALT. AND AN ALTERNATE PEDESTRAIN PHASE ACROSS THE WEST LEG OF US 40.

THE E.B. US 40 ALT. MOVEMENT WILL BE CONTROLLED BY A H.I.B.

LOCATED APPROXIMATELY 725 FT. PRIOR TO INTERSECTION AND A FIREHOUSE PRE-EMPTION FOR W.B. US 40 ALT.

## CONTROLLER REQUIREMENTS

G-J 5 CONDUCTOR ELECTRICAL CABLE

K-S 7 CONDUCTOR ELECTRICAL CABLE

T 4 CONDUCTOR OPTICOM DETECTOR

U STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

V-X 1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

a.b 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) c.f 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

(NO. 14 A.W.G.)

(NO. 14 A.W.G.)

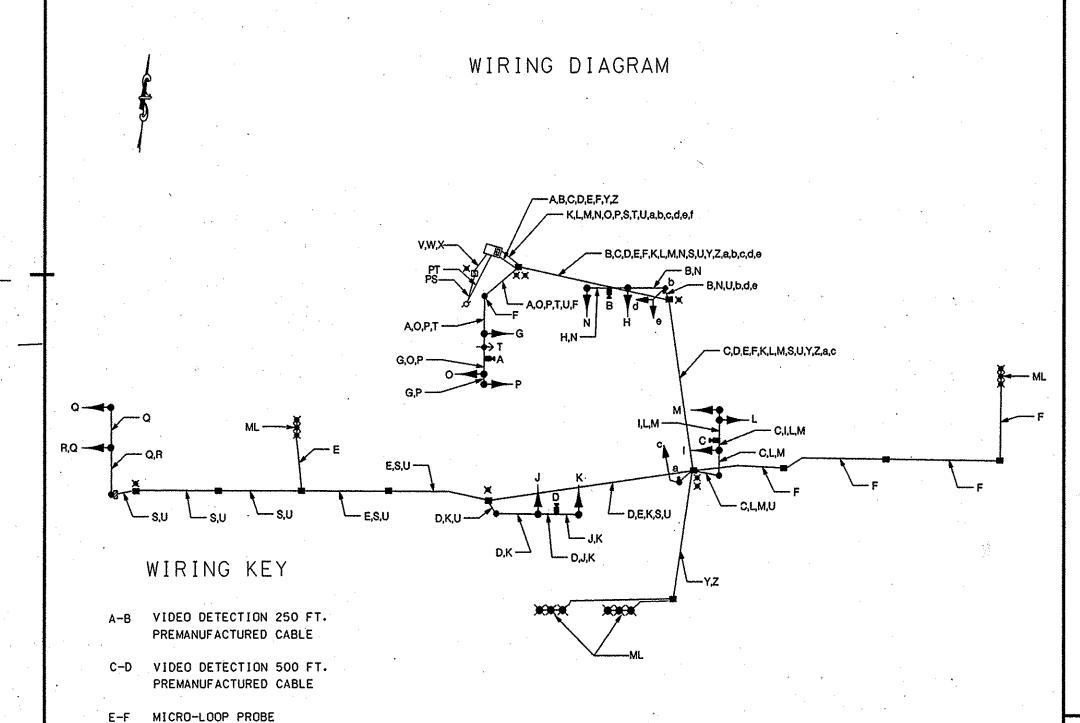
Y-Z MICRO-LOOP PROBE

ML MICRO-LOOP PROBE

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND AND ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND SPECIAL RELAY PACKAGE HOUSED IN A NEMA "6" BASE MOUNTED CABINET.

#### SPECIAL NOTES

1. UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE MSHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR MUST PROVIDE MR. SYNDER WITH THE NEAREST ADDRESS, ZIP CODE, AND PHONE NUMBER.



EQUIPMENT LIST "A"

QUANTITY

A. APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

ITEM NO. NONE

DESCRIPTION

## **EQUIPMENT LIST "B"**

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

**DESCRIPTION** 

<u>QO/MITTI</u>		<u>DEGOLIII TICI.</u>
LS	•	MAINTENANCE OF TRAFFIC
7 CY		TEST PIT EXCAVATION
260 LF		FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
140 LF		FURNISH AND INSTALL 24 IN WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
2 EA		FURNISH AND INSTALL 250 FT. VIDEO DETECTION CABLE
2 EA	•	FURNISH AND INSTALL 500 FT. VIDEO DETECTION CABLE
5 EA -		CUT, CLEAN, AND CAP TRAFFIC SIGNAL STRUCTURE
34 EA		FURNISH AND INSTALL 12 IN. L.E.D. VEHICULAR SIGNAL HEAD SECTION
6 EA		FURNISH AND INSTALL 8 IN. L.E.D. VEHICULAR SIGNAL HEAD SECTION
1 EA	, 4	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
4 EA	÷	FURNISH AND INSTALL 16.5 FT. MAST ARM POLE AND 50 FT. MAST ARM (15 FT. "T" DIMENSION)
1 EA		FURNISH AND INSTALL 16.5 FT. MAST ARM POLE AND 60 FT. MAST ARM (15 FT. "T" DIMENSION)
3 EA		FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN
1 EA		FURNISH AND INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN
4 EA		FURNISH AND INSTALL VIDEO DETECTION CAMERA
1 EA		FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT
30 LF		FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
1200 LF		FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
210 LF	*	FURNISH AND INSTALL 4 IN SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
70 LF		FURNISH AND INSTALL 4 IN SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
80 LF	•	FURNISH AND INSTALL 4-CONDUCTOR OPTICOM CABLE FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
20 CY 64 LF		FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
1100 LF	`	FURNISH AND INSTALL NO.6 AWG STRANDED BARE COPPER WIRE
60 LF		FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
10 LF		FURNISH AND INSTALL 1 IN. LIQUID TIGHT, FLEXIBLE, NON-METALLIC CONDUIT FOR DETECTOR SLEEV
1 EA		FURNISH AND INSTALL METERED SERVICE PEDESTAL
75 LF	*	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR (NO. 4 A.W.G.)
13 EA		FURNISH AND INSTALL ELECTRICAL HANDHOLE
8 EA		FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
100 LF		FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)
2030 LF		FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)
25 LF		FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR
1 EA		FURNISH AND INSTALL BASE MOUNTED CABINET AND CONTROLLER
1 EA		FURNISH AND INSTALL 4-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
2 EA		FURNISH AND INSTALL R3-5(L) SIGN (30" X 36") - MAST ARM MOUNT
3 EA		FURNISH AND INSTALL W3-3 SIGN (36" X 36") - GROUND MOUNT
1 EA		FURNISH AND INSTALL W3-3(2) SIGN (120" X 60") - MAST ARM MOUNT
2 EA		FURNISH AND INSTALL SHIELD ASSEMBLY (36" X 60") - GROUND MOUNT
1 EA		FURNISH AND INSTALL OPTICOM DETECTOR EYE
- 1 EA	`	FURNISH AND INSTALL 2-CIRCUIT FLASHER UNIT IN A G TYPE POLE MOUNTED CABINET
275 LF <sub>.</sub> 430 LF		FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 A.W.G.) FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR (NO. 14 A.W.G.)
430 LF 1 EA		FURNISH AND INSTALL BREAKAWAY PEDESTAL POLE
4 EA		FURNISH AND INSTALL PEDESTRAIN SIGNAL HEADS
2 EA		FURNISH AND INSTALL PEDESTRAIN PUSHBUTTON
3 EA		FURNISH AND INSTALL D3-2 DUAL FACE SIGN (VAR. X 16") - MAST ARM MOUNT
3 LA		I OTHER TO THE HOUSE DOLD I MORE GIVEN TO A MANOT WHAT INDONE

FURNISH AND INSTALL M95-1 DUAL FACE SIGN (72" X 24") WITH " ALT " PANEL - MAST ARM MOUNT

# EQUIPMENT LIST "C"

QUANTITY.

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

DESCRIPTION

ALD SFGNAL EQUIPMENT TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR

PHASING CHART

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PHASE 1 & 6	- G - <b>G</b> -	- ¢6−	G	R	R	R	R	R	R	R	DW	DW	DW	DW	FLASHING	Flashing	13
1 CHANGE	<b>₫</b>	4 <b>√</b> − 8	G	R	R	R-	R	R	R	R	DW	DW	DW	DW	FLASHING	Flashing	E,
PHASE 2 & 5	R	R	R	- OG	8 46-	G	R	R	R	R	DW .	DW	DW	DW	FLASHING	Flashing	ķ-
5 CHANGE	R	R	R	۵ 8	8 4Y~	G	R	R	R	R	DW	DW	DW	DW	FLASHING	Flashing	ŀ ₹
PHASE 2 & 6	· G	G	G	G	G	G	R	R	R	R	WK	WK	DW	DW	DARK	DARK	8
PED. CLEAR	G	G	G	G	G	G	R	R	R	R.	FLDW	FLDW	DW	. DW	DARK	DARK	
2 & 6 CHANGE	Υ	Y	Υ	Υ	Y	Y	R	R	R	- R	DW	DW	DW	DW	PLASHING	FLASHING	┝∸
PHASE 4 & 8	R	R	R	R	R	R	G	G	G,	G	DW	DW	DW	DW	Flashing	Flashing	П
4 & 8 CHANGE	R	R	R	R	R	R	Υ	Υ	Υ	Υ	DW	DW	DW	DW	Flashing	Flashing	
PHASE 4 & 8 ALT.	R	R	R	R	R	R	G	G	G	G	DW	DW	WK	WK	FLASHING	FLASHING	
PED CLEAR	R	R	R	R	R	R	Υ	Υ	Υ	Υ	DW	DW	FLDW	FLDW	FLASHING	`	J i
4 & 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Υ	DW	DW	DW	DW	FLASHING	Flashing	ŀΨ
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PRE-EMPTION CHANGE	R	R	R	G <b>∢</b> Y~	<b>6</b> 47∸	G	R	R	R	R	DW	DW	DW	DW	FLASHING	FLASHING	<b>.</b> ₹
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	.FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	<del>1</del>

#### CONTACT PERSONS FOR DISTRICT 6 ARE AS FOLLOWS:

MR. GEORGE SMALL ASSISTANT DISTRICT ENGINEER - TRAFFIC (301) 729-8444

MR. GEORGE FRANKENBURY ASSISTANT DISTRICT ENGINEER - MAINTENANCE (301) 729-8457

MR. WILLIAM PARK ASSISTANT DISTRICT ENGINEER - UTILITIES (301) 729-8439

#### CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630

MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF. TRAFFIC OPERATIONS (410) 787-7631

MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652

MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676

MS. DARLENE EIDE SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

US 40 ALT. AND MD 68 BOONSBORO, MD

SCALE NONE DATE 9-8-05 CONTRACT NO. BW996M82 WASHINGTON F 974 SHEET NO. 2 OF 2 DRAWING NO. TS-4281

TRAFFIC CONCEPTS, INC. 325 Gambrills Road

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